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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,640	01/18/2001	Glenn G. Amatucci	1380-US	8661

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DOCKET ADMINISTRATOR
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EXAMINER	
TUGBANG, ANTHONY D	
ART UNIT	**PAPER NUMBER**
3729	

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/764,640	AMATUCCI, GLENN G.	
	Examiner	Art Unit	
	A. Dexter Tugbang	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/11/05 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 9-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 9, it is unclear from the disclosure what is meant by the phrases of "an active surface...in the range of 1,500 m^2/g" (1^{st} occurrence at lines 4-5 and 2^{nd} occurrence at lines 7-8), rendering the claims as being vague and indefinite.

With an emphasis on the term of a "range", the limitations of "an active surface...1,500 m^2/g" (both occurrences at lines 4-5 and lines 7-8) are confusing and misleading because a "range" implies that a boundary must exists for a group or set of values. However, "in the range of 1,500 m^2/g" does not require any boundary of values. In other words, only one value is

recited, i.e. 1,500 m^2/g. One single, value does not constitute a range and it is unclear and ambiguous if the range is either to be above or below that one, single value.

Moreover, the examiner notes that the specification (at page 7, lines 4-23) does not provide any better explanation as to what was meant by the above claimed range. While the specification does use the same language recited in the claim, the specification is confusing and ambiguous to the extent that it does not give any boundary of values relative to the single value of 1,500 m^2/g.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 9-14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al 5,711,988 in view of Halliop 5,649,982.

Tsai discloses a method of making a supercapacitor comprising: laminating an activated carbon coated material comprising an active surface area to an electrically conductive positive current collector foil to produce a porous positive electrode subassembly 111A (in Fig. 3) and laminating an activated carbon coated material comprising an active surface area to an electrically conductive negative current collector foil to produce a porous negative electrode subassembly 111B (see col. 7, lines 13-20 and col. 12, lines 43-46); disposing a porous separator membrane 125, 127 between the carbon coated surfaces of the electrode subassemblies; heating

the assembly under pressure to form a porous laminated assembly (see col. 16, lines 37+); and contacting the porous laminated assembly with a non-aqueous electrolyte solution (see col. 17, lines 5-10). The electrode subassemblies 111A, 111B can either be said to positive or negative, because each is charged with positive and negative collector foils (see col. 10, lines 16-28).

Regarding Claim 12, Tsai show calendar rolling in Figure 10.

Regarding Claims 16 and 17, the porous metal grid of the collector foils can be made of either copper (see col. 5, line 55) or aluminum (see col. 3, lines 5-6).

Regarding Claims 9, 12, 13, 16 and 17, Tsai teaches substantially all of the limitations of the claimed manufacturing method except that Tsai appears to not mention that the carbon coated materials in both the positive and negative electrode subassemblies are each of a fabric, such that material can be said to be a "carbon fabric".

Halliop teaches forming electrode subassemblies 18 (in Fig. 1) than includes carbon fibers (see col. 2, lines 27+) to form a carbon fabric have the advantages of saving manufacturing time and costs of the supercapacitor (see col. 1, lines 40-48).

As best understood, Halliop further suggests that the carbon fabric can have an active surface area greater than 1000 m^2/g, in which this range of Halliop would overlap the claimed range of "in the range of 1,500 m^2/g" (required at lines 4-5 and lines 7-8 of Claim 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the carbon coated surface materials of Tsai by including the carbon fabric in each of the electrode subassemblies, as taught by Halliop, to advantageously save manufacturing time and costs.

With regards to Claims 10, 11 and 14, the temperature and pressure ranges and material of the separator membrane are all considered to be effective variables required for the manufacture of the supercapacitor and it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the specific recited temperature and pressure ranges as well as the material of the separator membrane, since it has been held that discovering optimum values of result effective variables involve only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Furthermore, the specific recited temperature and pressure ranges and material of the separator membrane do not provide any manipulative difference in the manufacturing method as compared to the prior art above.

Response to Arguments

6. Applicant's arguments with respect to Claim 1 have been fully considered, but are now considered to have been met in light of the teachings of Halliop, with the carbon fabric of Halliop having a range of values for the active surface area as discussed above.

Allowable Subject Matter

7. Claim 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 571-272-4570. The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. Dexter Tugbang
Primary Examiner
Art Unit 3729

May 16, 2005